Table of Contents

EXECUTIVE SUMMARY

This final Salmon Action Plan (SAP) for the River Camel catchment has been produced after consideration of feedback from external consultation. It provides a list of the agreed issues and actions for the next five years to maintain and improve the River Camel salmon stock.

The actions presented within this Salmon Action Plan clarify the important issues and factors currently limiting the salmon stock on the river. The resolution of these issues should ensure that a sustainable salmon population will be maintained for future generations. An attempt has been made to cost these actions, identify possible sources of funding and to provide a timescale for action.

The River Camel salmon stock has achieved the salmon egg deposition target since 1991 with no failure episodes. This assessment, based upon declared rod catches, can only be estimated and is likely to be dependent on river flow and the availability of salmon to the rods as only rod catch is used in the compliance assessment. It does not take into account those fish running after the close of the season.

This Action Plan aims to promote long term collaboration and co-operation between the Agency and other interested parties to effectively and efficiently manage the stock of salmon on the River Camel.

PART 1 INTRODUCTION

1.1 Background

In 1996, the National Rivers Authority published "A Strategy for the Management of Salmon in England and Wales". This National strategy identifies clear objectives that allow resources to be focused on priority activities. It provides consistent policies and a framework to manage stocks. The objectives for the future management of this resource are given as:

(i) *To optimise the number of salmon returning to home water fisheries;*
(ii) *To maintain and improve the fitness and diversity of salmon stocks;*
(iii) *To optimise the total economic value of surplus stocks;*
(iv) *To meet the necessary costs of managing the resource.*

The strategy document outlines how these could be achieved in practice to ensure the sustainable exploitation of our salmon, so conserving this species for future generations.

The Agency is committed to implementing this Strategy by means of local Salmon Action Plans (SAPs) drawn up by the year 2003 for all our principal salmon rivers, after consultation with local interest groups. This is now a statutory requirement for the Environment Agency.

The Salmon Action Plan consultation document aims to:

- Introduce and subsequently identify river-specific salmon spawning targets;
- Identify existing and future fishing controls to protect salmon stocks and the fisheries that they support;
- Identify factors limiting salmon survival and production in both the marine and freshwater phase of the life cycle;
- Identify programmes of works based upon the limiting factors that will enable remedial and development measures to be undertaken.

Using feedback from external consultation, this final Camel SAP document provides a clear statement of the issues and costed actions that should be undertaken to bring about desired benefits to salmon fisheries. A key purpose of the final SAP is to be the reference document for monitoring progress.

The River Camel Salmon Action Plan is the fourth of seven Salmon Action Plans to be drawn up by the Cornwall Area Fisheries Recreation and Biodiversity Team, South West Region.

1.2 The River Camel Salmon Action Plan

The River Camel is the largest river catchment on the North Cornwall coast. It drains and supports both a rod and line and commercial net fishery for migratory salmonids (Figure 1).

Global climatic and oceanographic changes, unsustainable high seas exploitation and factors specific to the freshwater phase of the life cycle have been associated with a national decline in salmon stocks. The River Camel itself has come under a number of local pressures.

The Camel SAP consultation process sought to identify factors limiting the salmon population within the River Camel. Issues identified as affecting the marine phase of the salmon life cycle are generally being dealt with on a national and international level although they are included for completeness. Therefore, the SAP process has the greatest potential to address local issues so as to ensure that the exploitation of the salmon population is maintained at a sustainable level and that juvenile production is maximised.

This Final Salmon Action plan sets out the agreed issues and actions that the Environment Agency, working with other interested parties, will seek to use to maintain, improve and develop the stock of the wild breeding indigenous Camel salmon.

Figure 1– Map of River Camel catchment showing byelaw boundaries.

PART 2 PUBLIC CONSULTATION

The River Camel Salmon Action Plan Consultation document was initially published in November 2002. Within this document, the Agency highlighted the current status of the salmon stock and identified the major constraints limiting the resource. The consultation plan also outlined the Agency's proposals for addressing these limitations.

150 copies were distributed to organisations and individuals that were likely to be interested in the River Camel and its salmon population. The closing date for the responses was set for 25 November 2002. In total, 7 formal written responses were received from a wide range of consultees. Many of these were made for and on behalf of other individuals and groups with an interest in the River Camel salmon stock.

The responses from the consultees generally considered that the document provided a good description of the River Camel. Most responses agreed with the issues identified and actions required to progress them. Many of these were indicative of a high level of awareness and interest in the work that the Agency and its collaborative partners are attempting to undertake on the River Camel. It is the purpose of the SAP to identify and prioritise the issues and actions needed. Without adequate funding and support from partners, these actions will not be carried out. The SAP is specifically written for the future management of salmon. However, the actions proposed will also protect other important species.

The respondents to the consultation document attended a meeting on 6 December 2002 to discuss the issues and ways of further investigation or resolution of these issues. This important and useful meeting led to the creation of the actions listed in this Salmon Action Plan for the River Camel.

At the consultation meeting a new approach was piloted. Consultees were asked to score each issue and action according to their perception of importance and priority on a scale of 1-5. These scores were then added together to give a total score up for each issue. It was felt that this would be a useful way to help the Environment Agency to target the limited resources more efficiently in line with the agreed priorities.

The following table explains how the scores were converted into priorities.

SCORE	**PRIORITY RATING**
Greater than 40	Very High (VH)
30 –40	High (H)
20-30	Medium (M)
Less than 20	Low (L)

The results of this prioritisation by the consultees are shown in Part 3 -Table 1 Issues and Actions.

The Agency wishes to express thanks to all consultees who made comments and attended the meeting.

PART 3. ISSUES AND ACTIONS

Table 1 - Issues and Actions

ISSUE	ACTION	TIMESCALE					COST (£K) AND FUNDING SOURCES	Ref
(priority determined at consultation meeting VH = very high; H = high; M = medium, L = Low)		02/ 03	03/ 04	04/ 05	05/ 06	06/ 07		
Inadequate knowledge of factors impacting upon juvenile survival in the River Camel								
River Allen fish population decline	Identify cause of decline and take appropriate action. (VH).	*	*	*	*	*	Agency -Habitats Directive Project Officer to investigate	CM1
	Continue monitoring of population to investigate recovery (H).	*	*				Agency- funded by Habitats Directive	CM2
	Identify the source of Zinc within the water from Delabole Slate quarry (H).	*					Agency- funded by Habitats Directive	CM3
	Buy back netting time on Camel Estuary (M)	*					Agency- funded by Collaborative Project Fund	CM4
	Produce report on investigation and findings (H)	*	*				Agency – funded by Habitats Directive	CM5
River Ruthern low salmon densities	Identify cause of low juvenile salmon densities (H)		*				Agency	CM6
Impact of nutrient enrichment.	Investigate effects of increased nutrient enrichment within the catchment (VH).	*	*	*	*	*	Agency	CM7
Inadequate monitoring of adult upstream migration								
Lack of information of run size.	Fish counters feasibility study. (L)						English Nature/ Agency Feasibility £5 –£10k	CM8
Habitat degradation								
Agricultural Practices	Influence CAP reform (VH)	*	*	*	*	*	National Agency	CM9
	Provide full support (best practice guidance, data, funding) as a partner in the Objective1 Cornwall Rivers Project. (VH)	*	*	*	*	*	Agency	CM10
	Undertake fencing projects at main salmon spawning areas e.g. Kenningstock (H) All to promote Countryside Stewardship or Agency can provide materials.	*	*	*	*	*	English Nature/ Agency/ Westcountry Rivers Trust	CM11
	Progress Stannon Project (H).	*	*	*	*	*	Agency/ River Assoc.	CM12
	Provision of egg boxes to support juvenile populations and assessment of benefits (H)	*	*	*	*	*	Riparian Owners/Fishing Clubs	CM13
Crowdy scour valve releases	Ensure that releases occur at the least sensitive time of year (H)	*	*	*	*	*	Agency/ SWW	CM14
Limited knowledge of habitat	Undertake HABSCORE analysis to determine salmon carrying capacity and identify limiting factors (H).	*	*	*	*	*	Agency	CM15

Table 1 (Continued)

ISSUE	ACTION	TIMESCALE					COST (£K) AND FUNDING SOURCES	Ref
(priority determined at consultation meeting: VH = very high; H = high; M = medium, L = Low)		02/ 03	03/ 04	04/ 05	05/ 06	06/ 07		
Diminishing run size of salmon								
Exploitation of salmon	Consider byelaw to change season only following 2 consecutive spawning target failure episodes (M)		*	*			Agency/ DEFRA	CM16
	Review Net Limitation Order (M)		*	*	*		Agency	CM17
	Promote use of barbless hooks to aid survival after release (H)	*	*	*	*	*	Agency/Riparian Owners/Fishing clubs	CM18
	Restrictions to fishing methods. e.g. restriction on use of worms/ prawn in Nov/Dec (M)						Riparian owners /Fishing clubs	CM19
	Promote more catch and release, currently 50% (H)	*	*	*	*	*	Agency/Riparian Owners/Fishing Clubs	CM20
	Voluntary bag limits (M) or byelaw?	*	*	*	*	*	Riparian Owners /Fishing clubs	CM21
Fishing amongst spawning fish	Identify and protect spawning sanctuary areas and discourage angling at sensitive times (VH)	*	*	*	*	*	Riparian Owners/ fishing clubs/ Agency	CM22
Poaching								
Size of freshwater catchment, estuary and coastal area.	Maximise frequency of targeted enforcement patrols and use of new technology (H).	*	*	*	*	*	Agency – Core work	CM23
Estuary and coastal bylaws	Review bylaws to tighten up on areas where poaching opportunities exist (including bass legislation).(VH)	*	*	*	*	*	Agency	CM24
	Publicise regulations and encourage reports from the public (H)	*	*	*	*	*	Agency	CM25
Exploitation of mixed salmon stocks in distant water fisheries								
Exploitation by Irish Drift Nets	Assess the significance of the Irish fishery to exploitation on SW rivers (VH).	*	*	*	*	*	NASCO / ICES Agency Index River Project	CM26
Restrictions to upstream salmon migration								
Restricted access within certain tributaries	List and assess restrictions to access. (H) eg. De Lank and Stannon weirs	*	*				Westcountry Rivers Trust/ Agency /EN	CM27
Assess the impacts of temporary structures (“trash” dams) and remove where necessary.	Sensitive removal of trash dams where barriers to fish movement (H)	*	*	*	*	*	Agency – Core Work	CM28

Table 1 (Continued)

ISSUE	ACTION	TIMESCALE					COST (£K) AND FUNDING SOURCES	Ref
(priority determined at consultation meeting VH = very high; H = high; M = medium, L = Low)		02/03	03/04	04/05	05/06	06/07		
Potential mortalities due to in river abstractions								
Loss of salmon smolts into leats	List and assess screening/smolt passes at in-river abstractions (VH) e.g. R Allen leats, Waterloo Stream & Kenningstock leat.	*	*				Agency	CM29
Population dynamics								
Unknown proportion of large grilse and MSW salmon in the autumn run	Undertake scale analysis of late-running salmon to determine MSW component (M)	*	*	*	*	*	Agency	CM30

PART 4. MANAGEMENT OF THE PLAN

The salmon action planning process operates at three levels:

- The Consultation document.
- The Final plan.
- The annual review process.

The local Area Environment Agency Fisheries Team produces the consultation document and the final plan. A review will be published in five years time in a similar format to this plan. It will report on progress over the past five years and examine the need to update actions in the light of changes within the River Camel catchment and advances in our knowledge.

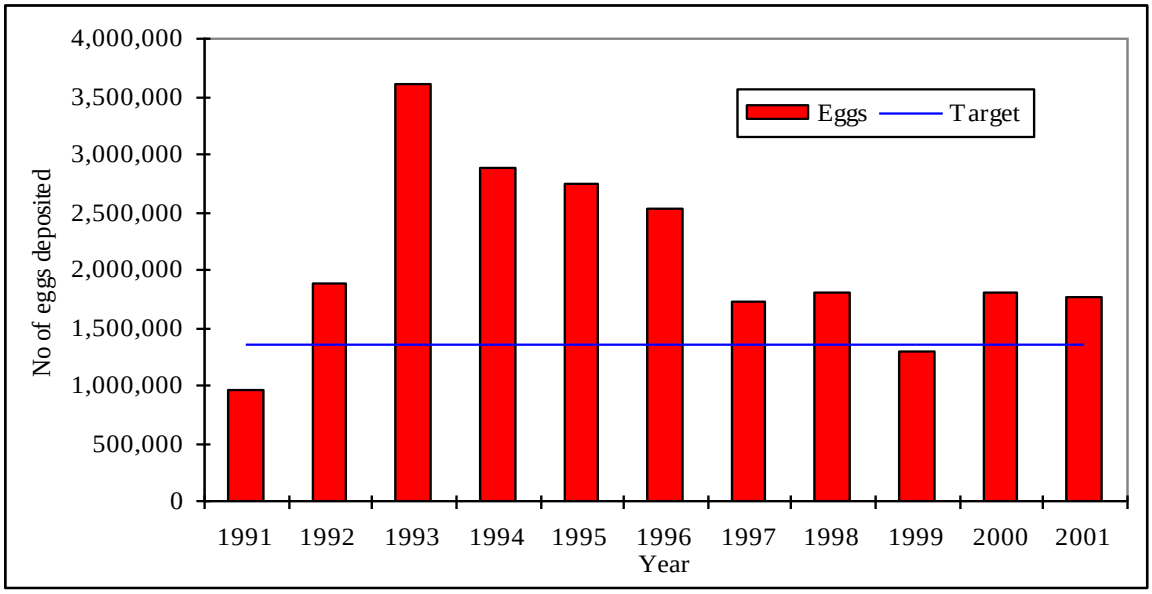
A regional report (for the South West Region) will be produced annually. This will consist of an overview of the key points in the region, and, for individual rivers having a SAP, there will be reference to significant local events and tabular summaries of:

- The performance of rod and net fisheries.
- Participation in the rod and net fisheries
- Status of the salmon stock with respect to spawning target levels.
- Planned action and progress against the plans.

PART 5 MINIMUM ACCEPTABLE SPAWNING LEVELS

A primary component of the Action Plan is the determination of a minimum acceptable spawning level (egg deposition rate per year) below which the River Camel's salmon stock should not fall. The River Camel salmon egg deposition (spawning) target was calculated to be equivalent to 243 eggs per 100m² of the available wetted area, which equates to a declared rod catch of approximately 204 salmon. Spawning target compliance using historic rod catch data indicated that the target has been achieved since 1991 with no failure episodes.

Figure - River Camel historic egg deposition compliance.



The minimum acceptable spawning level target will be subject to refinement as methodologies for its determination develop in this country. It should be remembered that it is the first time that a spawning target level equated with the best possible sustainable yields of salmon has been estimated for the River Camel.

The setting of objectively derived minimum acceptable spawning levels for Atlantic Salmon is now being actively promoted by the North Atlantic Salmon Conservation Organisation (NASCO), and has been used successfully in North America for several years. It is understood that many other factors are likely to contribute to the success of spawning and should be included in the calculation of egg deposition. Research is currently being undertaken to ensure that all factors are taken into account when calculating spawning targets.

The actions proposed within the plan are intended to facilitate an increase in stock abundance to a level that will enable an optimum yield to both rod and net fisheries for present and future generations of fishermen. This in turn should encourage economic as well as ecological benefits to the River Camel catchment.

References

Environment Agency (2002) – River Camel Salmon Action Plan – Consultation Document.

National Rivers Authority (1996) – A Strategy for the Management of Salmon in England and Wales.